# ON THE FRINGES OF THE *CORPUS ARISTOTELICUM*: THE PSEUDO-AVICENNA *LIBER CELI ET MUNDI*

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In the period between 1175 and 1275, four Latin translations were made of Aristotle's *De caelo*. The earliest was by Gerard of Cremona (*c.*1175).[1] Gerard (*d.*1187) was the most prolific of the Christian translators who gathered in Toledo, following its re-capture from the Arabs in 1085. He translated roughly 70 Aristotelian and Arabic texts and commentaries. He translated *De caelo* from the Arabic version of Ibn al-Bitriq, who worked in Baghdad early in the ninth century.[2]

The second Latin translation of *De caelo* was by Michael Scot, again from the Arabic of al-Bitriq. Scot's translation, which takes the form of lemmata within his translation of Averroes's commentary on *De caelo*, was completed some time before 1231. According to Roger Bacon, Scot arrived in Paris in 1230, bringing with him his translations of the *Libri naturales*. This would almost certainly include *De caelo*. In any case, the dedication to Stephen of Provins is dated to 1231.

At some time after 1230, Robert Grosseteste produced a third translation, from Greek. In his writings from the 1220s, Grosseteste relied upon Gerard's translation, but around the year 1230, he mastered Greek,[3] possibly under the guidance of John of Basingstoke.[4] His translation of *De caelo* seems only to have covered Bks. 1-3.1. This survives in two manuscripts. The first, an Oxford manuscript (Balliol College MS 99), contains a translation of the whole of Bk 2 in the form of lemmata to Simplicius's commentary. The second, Vatican Latinus MS 2088, contains fragments of Bks. 1-3.1 identical to the Balliol manuscript. A marginal

[1] This has been edited by Ilona Opelt, and is published as footnotes to Paul Hossfeld's edition of Albertus Magnus's Commentary on *De caelo*, *Alberti Magi Opera Omnia* V.1 (Aschendorff 1971).

[2] On *De caelo* in the Arabic tradition, see G. Endress, *Die Arabischen Übersetzungen von Aristoteles' Schrift De Caelo* (Frankfurt 1966).

[3] *cf* J.T. Muckle, "Robert Grosseteste's use of Greek sources in his *Hexaemeron*," *Medievalia et Humanistica* 3 (1945), 3-48.

[4] Richard Southern sets out the argument for identifying John as Grosseteste's Greek teacher in *Robert Grosseteste* (Oxford 1992), 185.

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note from the Vatican manuscript refers to the translator as *Lincolniensis*.[5]

The fourth, *translatio nova* of *De caelo* was that of William of Moerbeke between 1260 and 1270, again from Greek. William revised Grosseteste's earlier Greek-Latin translation of Bks. 1-2, and added his translation of Bks. 3-4. He too translated Simplicius's *De caelo* commentary.[6]

## *The* Liber celi et mundi

Alongside these four translations, there was a fifth "version" of *De caelo*, very probably ante-dating all that I have so far mentioned. One of the earliest manuscripts containing translations of Aristotle's *Libri naturales* is Oxford, Bodleian Library MS Selden Supra 24. It is a collection of booklets in different hands, compiled in Northern France *c.*1200 or slightly earlier.[7] The only version of *De caelo* found in this manuscript is called the *Liber celi et mundi*. The codex contains the following texts:

*Metaphysica*[8] (3v-27r)
*Ethica vetus*[9] (27v-41r)

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[5] On the attribution of the translation to Grosseteste, see D.J. Allan, "Medieval versions of Aristotle's *De caelo*, and of the commentary of Simplicius," *Mediaeval and Renaissance Studies* 2 (1950), 82-120.

[6] On William of Moerbeke, see M. Grabmann, *Guglielmo di Moerbeke O.P., il traductorre delle opere di Aristotele*, *Miscellanea Historiae Pontificiae* 11 (1946). On his translation of *De caelo*, see J. Weisheipl, "The commentary of St. Thomas on the *De caelo* of Aristotle," *Sapientia* 29 (1974), 11-34.

[7] For a full description of the manuscript, see R.W. Hunt, "The library of the abbey of St. Albans," *Medieval scribes, manuscripts and libraries. Essays presented to N.R. Ker*, ed. M.B. Parkes and A.G. Watson (London 1978), 251-78; G. Lacombe, *Aristoteles Latinus*, 2 Vols (Cambridge 1939, 1955), 1: 340; M.-Th. d'Alverny, "Avicenna Latinus V," *Archives d'Histoire Doctrinale et Littéraire au Moyen Age* 32 (1965), 280-2.

[8] This is the second oldest copy of the incomplete *Metaphysica vetustissima*. It is marginally later than the copy in MS Avranches 232. L. Minio-Paluello identified the translator as James of Venice, who travelled with the delegation of Anselm of Havelberg to Constantinople in 1136 ("Iacobus Veneticus Grecus: canonist and translator of Aristotle," *Traditio* 8 (1952) 265-304, repr. L. Minio-Paluello, *Opuscula* (Amsterdam 1972), 189-228). Minio-Paluello described James as "the most successful pioneer of Latin Aristotelianism in the twelfth century". James also translated the *Physica vetus*, *De anima*, most of the *Parva naturalia*, and the anonymous *De intelligentia*. The *Metaphysica* has been edited by G. Vuillemin-Diem (Desclée de Brouwer) *Metaphysica: Translatio Iacobi ('Vetustissima') et Translatio Composita ('Vetus')*, *Aristoteles Latinus* XXV.1-1a (Leiden 1970).

[9] This is the Greek-Latin version, known as the *translatio vetus*, containing bks.2-3 of the *Nicomachean Ethics*. This and the following text, the earliest copy of

*De generatione et corruptione* (41v-64r)
*Liber celi et mundi* (64v-76r)
*Liber de causis*[10] (76r-83v)
*Meteorologica*[11] (84r-109r)

Selden Supra 24, together with two manuscripts composed at Mont Saint Michel, Avranches MSS 221 and 232,[12] forms a collection of the earliest copies of the new translations of the *Libri naturales.*[13] The manuscripts ante-date all of the *De caelo* translations apart from that of Gerard of Cremona. And Gerard's translation appears in none of these manuscripts.

In this paper, I shall attempt to cast some light on the authorship of the *Liber celi et mundi*, on the translator or translators, and its relation to the genuine *De caelo.* But I shall first consider its subsequent history following its appearance in a French manuscript

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the *translatio vetus* of *De generatione et corruptione*, contain extensive similarities, and are clearly the work of the same translator. In an important article, R.J. Durling has identified the translator of *De generatione et corruptione* as Burgundio of Pisa ("The anonymous translation of Aristotle *De generatione et corruptione*," *Traditio* 49 (1994), 220-230). The best study of Burgundio is P. Classen, *Burgundio von Pisa, Sitzungsberichte der Heidelberger Akademie der Wissenschaften* Abhandlung 4 (1974). R.A. Gauthier has edited the *Ethica vetus, Aristoteles Latinus* XXVI.1-3 (Leiden 1972). Joanna Judycka has edited the *translatio vetus* of *De generatione et corruptione, Aristoteles Latinus* IX.1 (Leiden 1986).

[10] The history of the composition of the *Liber de causis* is by no means clear. It is a re-working of Proclus's *Elementatio theologia*, possibly by Avendauth. On the various theories of its origin, see the introduction to the edition by A. Pattin, *Le Liber de causis* (Louvain 1975).

[11] Bks. 1-3 of the *Meteorologica* were translated from Arabic by Gerard of Cremona, bk. 4 from Greek by the Sicilian, Henricus Aristippus. In the Selden Supra 24 copy of the *Meteorologica*, part of Avicenna's *Kitab al-Shifa*, translated by Alfred of Shareshill as *De mineralibus*, has been appended to Bk. 4, probably by Alfred himself.

[12] On the Avranches manuscripts, see *Catalogue général des manuscrits des Bibliothèques publiques de France* (Paris 1889) tome 10, 102-3, 110-12.

[13] The texts that surround the *Liber celi et mundi* in Selden Supra 24 were all translated into Latin during the twelfth century, and were subsequently included in the *Corpus vetustius*. The *Corpus vetustius* (so-called because certain translations have the suffix *de veteri translatione* in lists of contents) was the collection of natural science used for public lectures in Paris *c.*1220-1265. It generally contained: *Physics* (trans. James of Venice); *De caelo* (trans. Gerard of Cremona); *De generatione et corruptione* (trans. Burgundio of Pisa); *Meteorologica* (trans. Gerard, Aristippus and Alfred of Shareshill); *De plantis* (by Nicholas of Damascus, trans. Alfred); *De anima* (trans. James); *Parva naturalia* (trans. James); *De differentia spiritus et animae* (trans. Johannes Hispalensis et Limiensis); *Liber de causis.* On the vexed question of the date of the compilation of the *Corpus vetustius*, see C.S.F. Burnett, "The introduction of Aristotle's natural philosophy into Great Britain: a preliminary survey of the manuscript evidence," *Aristotle in Britain during the Middle Ages*, ed. J. Hamesse (Leiden 1996), 21-50.

*c.*1200, to try to explain how Avicenna came to be thought of as the author.

The *Liber celi et mundi* is the title by which the text is known in most of the 26 surviving manuscripts,[14] of which I have seen 24.[15] Most of the manuscripts from the mid-thirteenth century or later ascribe the text to Avicenna. Those before this date are anonymous. The text appears in the Venice 1508 ed. of Avicenna's writings, with the following *incipit*:

> Incipit liber Avicenne de celo et mundo. Collectiones expositionum ab antiquis grecis in libro Aristotelis de mundo qui dicitur liber celi et mundi.[16]

The ascription to Avicenna is mistaken. Avicenna's exposition of *De caelo* exists in Arabic, and forms the second book of part 2 of the *Kitab al-Shifa*, his philosophical encyclopaedia in the Aristotelian tradition known in Latin as the *Sufficientia*. It was translated into Latin by Juan Gunsalvi of Burgos, and his Jewish colleague, Solomon, between 1274 and 1280. This translation survives in only one manuscript.[17]

It is unclear how the attribution of the *Liber celi et mundi* to Avicenna came about. To my knowledge, the earliest writers to attribute it to him were Vincent of Beauvais, in his *Speculum naturale*,

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[14] Cambridge, Gonville and Caius college, MS 504 (271) fols.133r-146r; Copenhagen, Kongeliche Bibliotek, MS Thott 164 fols.119r-131r; Dubrovnik, Dominican priory, MS 20 (36-V-5) fols.33v-40v; Erfurt, Stadtbibliothek, MSS Amplon. F. 31 fols.130r-144v, Amplon. Q. 295 fols.1-19r; Erlangen, Universitätsbibliothek, MS 205 (Irm 411) fols.68r-73r; Göteborg, Universitetsbibliotek, MS Lat. 8 fols.215r-221r; Laon, Bibliothèque Municipale, MS 412 fols.135r-136r; Milan, Biblioteca Ambrosiana, MS T.91 Sup. fols.1-10v; Naples, Biblioteca Nazionale, MS VIII.E.19 fols.28v-32r; Oxford, Balliol college, MSS 173A fols.40v-49r, 284 fols.21r-26r; Oxford, Bodleian Library, MSS Selden Supra 24 fols.64r-74v, Digby 76 fol.79r-v, Laud Misc. 357 fols.118r-123v, Bodley 463 fols.176r-177r; Oxford, Merton College, MS 282 fols.161v-167v; Paris, Bibliothèque Mazarine, MSS 3472 fols.79v-88r, 3473 fols.170v-173v; Paris, Bibliothèque Nationale, MSS Lat. 6443 fols.90v-96v, 16082 fols.337r-351v, 16604 fols.50r-65v; Salamanca, Biblioteca Universitaria, MS 2671 fols.2r-6v; Toledo, Biblioteca Capitular, MS 47-15 fols.91v-92r; Vatican Latinus MSS 2186 fols.50v-57v, 4428 fols.20v-27r.

[15] I have not seen the manuscripts from Dubrovnik and Toledo.

[16] *Avicenna perhypatetici philosophi ac medicorum facile primi opera*, Ottaviano Scoto (Venice 1508), fols. 37r-42v:

> Here begins the book of Avicenna on heaven and earth. Collections of expositions by the ancient Greeks on Aristotle's book on the world which is called the book of heaven and earth.

[17] Vatican Urbinus Latinus 186 fols. 83r-102r. Michel Renaud published this in *Bulletin de philosophie médiévale* 15 (1973), 92-130.

and Albert the Great, in his commentary on *De caelo*. Vincent composed the first version of his *Speculum naturale* during the years 1244-46.[18] In Book 26, he writes:

> Quia dicit Avicenna in *libro suo celi et mundi*, quod ex motu generatur calor in exterioribus....[19]

This is a reference to chapter 13 of the *Liber celi et mundi*, in which it is argued that the stars are not intrinsically hot, but warm us by their motion.[20] Albert the Great wrote his *De caelo* commentary after his return from Paris to Cologne in 1248. It was probably completed by 1251.[21] He quotes verbatim from the *Liber celi et mundi*, and certainly had it to hand when writing his own. He refers to it as "Avicenna in sufficientia de libro caeli et mundi."

I have not been able to determine exactly when or how the attribution came about. At least one person challenged it. Roger Bacon, in his *Opus maius*, devotes a section to books of doubtful authorship. He writes:

> Nam cum aestimamus quod Avicenna fecit *librum coeli et mundi* qui communiter habetur, falsum est.[22]

He does not give a reason for his doubts.

A Hebrew translation of the *Liber celi et mundi* appeared in the

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[18] I am following the chronology of Monique Paulmier-Foucart, to whom I am indebted for bringing to my attention the following reference.

[19] Vincent of Beauvais, *Speculum naturale* XXVI, 18 (Douai, 1624) vol. 1 col. 1854. The version printed at Douai is the slightly later *Speculum Tripartitum* (1253):

> Because Avicenna says in his book of heaven and earth, that heat is generated from motion in external things...

[20] Chapter 13 ll.58-60:

> Iam autem patefecit Aristoteles in libro de sensu et sensato et in libro de anima, quod non est de natura earum calor sed calefaciunt nos suo motu.

The chapter- and line-numbers refer to my edition of the text, O. Gutman, *Liber celi et mundi. Introduction and critical edition* (D.Phil. thesis, Oxford 1996), 448.

[21] On the date of Albert's commentary, see the Prolegomena to Paul Hossfeld's edition, *Alberti Magni Opera Omnia* V.1 (Aschendorff 1971), v; J. Weisheipl, "The life and works of St. Albert the Great," *Albertus Magnus and the sciences*, ed. J. Weisheipl (Toronto 1980), 13-51.

[22] Roger Bacon, *Opus Majus*, ed. J.H.Bridges, 2 vols. (London 1900), 2: 391:

> For when we declare that Avicenna wrote the book of heaven and earth, as is generally held, this is false.

mid-thirteenth century. It is entitled *Sefer ha-Shamayim le'Ibn Sini* ("The book of the heavens by Avicenna"), and survives in 18 manuscripts. Some of these name the translator as Solomon ben Moses of Melgeuil (*fl.*1240-60).[23] Solomon also translated the Latin version of Avicenna's *De somno et vigilia*, and it is clear that he translated the *Liber celi et mundi* from Latin also, rather than from Arabic. But the Hebrew version of the *Liber celi et mundi* is much shorter than the Latin, at times closer to a paraphrase. In particular, the lengthy arguments for the finite size of the world, in chapter 5 of the Latin text, have been drastically reduced.[24]

If one compares the Latin text with *De caelo* itself, it is immediately apparent that it is neither a translation nor a commentary, but a paraphrase. Commentaries, such as those of Averroes, include a complete text interspersed with running commentary. A paraphrase is a re-writing, and often a simplification, of Aristotle's ideas. The *Liber celi et mundi* contains 16 chapters, which bear no formal correlation to the four books of *De caelo*. The *Liber celi et mundi* does not paraphrase the whole of *De caelo*, but only certain chapters from Bks.1-2. These books deal with the area of the universe composed of the *quinta essentia*, the fifth essence, to be distinguished from the four terrestrial elements.

### *The author of the* Liber celi et mundi

Forty years ago, M.A. Alonso put forward the thesis that the *Liber celi et mundi* was a Latin translation of an Arabic compilation by Hunayn ibn Ishaq of extracts of Themistius's *De caelo* paraphrase.[25] This theory has been generally accepted, but needs to be reconsidered.

Hunayn ibn Ishaq (*d.*876), the Nestorian Christian who worked in Baghdad as a physician, translated a large number of Greek texts into Syriac and Arabic.[26] The bulk of his translations were of

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[23] On the career of Solomon ben Moses of Melgeuil, see C. Sirat, *A history of Jewish philosophy in the Middle Ages* (Cambridge 1985), 232-4.

[24] Ruth Glasner has examined the Hebrew translation and its relation to the Latin text in much greater detail in "The Hebrew version of *De caelo et mundo* attributed to Ibn Sina," *Arabic sciences and philosophy* 6 (1996), 89-112. I am grateful to her for allowing me to see an advance copy of this article, as well as her English translation of the Hebrew text.

[25] M.A. Alonso, "Hunayn traducido al Latin por Ibn Dawud y Domingo Gundisalvo," *Al-Andalus* 16 (1951), 37-47.

[26] There is a useful summary of the career of Hunayn ibn Ishaq by D.C.

the Galenic corpus, but he also translated Aristotelian commentaries. He certainly knew of the paraphrases of Aristotle by Themistius. The latter, born *c.*317 in Paphlagonia, had a distinguished political career in Constantinople.[27] Though a pagan he gained the confidence of the Christian emperor Constantius II, and in 359 became pro-consul. Though he is primarily known as an orator, he also opened a school of philosophy in Constantinople *c.*345. His paraphrases of the *Analytica posteriora*, *De anima* and *Physics* survive in Greek. The Greek original of his *De caelo* paraphrase is lost, as is the Arabic translation by Yahya ibn' Adi (*d.*975). Only a Hebrew translation, made in 1284 by Zerahyeh ben Isak Shealtiel from the Arabic, survives. Zerahyeh was born in Barcelona, though he worked in Rome. He also translated Aristotle's *De anima* and *De generatione et corruptione* from Arabic into Hebrew. He translated Themistius's paraphrase in the same year as *De anima*, and refers to the former in his preface to the latter.[28] A Hebrew-Latin translation of the *De caelo* paraphrase was made by Moses Alatinus, a Jewish doctor from Spoleto, in 1574. The Hebrew and Latin versions were published together by S. Landauer.[29]

In support of his argument for Themistius's authorship, Alonso cited a passage in the *Liber celi et mundi* that, he claimed, had been lifted from Themistius's paraphrase. He compared the 1574 translation with the *Liber celi et mundi*. Themistius wrote:

> Praeterea, si caeli motus, videlicet tempus caeli motus, quo caelum una circumvolutione movetur, ceterorum mensura est, quemadmodum in Quarto Physicorum, cum de tempore ageret, explicatum fuit, quia hic motus est regularis et perpetuus, in quoque autem quantitatum genere mensura est earum minimum, veluti in numero unitas ac simplex in ponderibus, ut uncia, eademque ceterorum ratio est, quod vero aliquid metitur, saepe ac aeque mensurare debet: tempus igitur caeli motus minimum quoque est.[30]

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Lindberg, "The transmission of Greek and Arabic learning to the west," *Science in the Middle Ages*, ed. D.C. Lindberg (Chicago 1978), 52-90 (especially 56-57). See also, G. Bergsträsser, *Hunain ibn Ishaq über die syrischen und arabischen Galen-Übersetzungen* (Leipzig 1925); M. Meyerhoff, "New light on Hunain ibn Ishaq and his period," *Isis* 8 (1926), 685-724.

[27] On Themistius, see H.J. Blumenthal, "Themistius: the last peripatetic commentator on Aristotle," *Aristotle Transformed*, ed. R. Sorabji (London 1990), 113-23. There is an extensive bibliography for Themistius in *Aristotle Transformed*.

[28] *cf. Aristotle's De anima translated into Hebrew by Zerahyeh ben Isaac ben Shealtiel Hen*, ed G. Bos *Aristoteles Semitico-Latinus* 6 (Leiden 1994), 3.

[29] *Themistii in libros Aristotelis De caelo paraphrasis*, ed. S. Landauer, *Commentaria in Aristotelem Graeca* V.4 (Berlin 1902).

[30] Landauer, *Themistii paraphrasis*, 101.

*cf. Liber celi et mundi* chapter 8 ll.8-18:

> Contingit etiam ut tempus motus celi poneretur mensura omnium motum, sicut patefecit Aristoteles in quarto libro de auditu naturali, quando nominavit tempus, ideo quod motus celi est minus omnibus rebus et est equalis motus et continuus et semper. In omni enim genere rerum que mensurantur, oportet ut id quo mensurantur sit minus omnibus illis que mensurantur, sicut est unus in numero, dragma in pondere, ciatus in mensura. Ergo oportuit ex hoc ut tempus motus celi, eo quod per illud mensuratur tempus omnium rerum, sit minus omnibus illis.[31]

Some of the points of overlap here are also found in *De caelo* 2.4, in which case it is unsurprising that they should appear in more than one *De caelo* paraphrase. Aristotle says that the motion of heaven is the measure of all other motions, and provides as reasons that it alone is continuous, unvarying and eternal (287a25). However, the reference to *Physics* Bk.4 and the examples of the smallest members of every class of thing being the measure of that class do not appear in *De caelo.* While the examples in Themistius's paraphrase are not exactly the same as those in the *Liber celi et mundi,* this would suggest that both use the same source, or that the author of the *Liber celi et mundi* had read Themistius.

Though not mentioned by Alonso, the following passages from Themistius's paraphrase and the *Liber celi et mundi* also contain extensive similarities:

> Numquid autem consentaneum sit, ut stellae ex eo corpore constent, in quo collocatae sunt, haec plane communis omnium sententia est; an vero eius-

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> Furthermore, if the motion of heaven, that is the time of the motion of heaven, in which heaven moves one revolution, is the measure of other things, as has been explained in Bk. 4 of the *Physics,* when he considers time, because this motion is regular and perpetual, and in the measurement of this kind of quantity, it is the least of them, just as unity in number and the simple in weights, such as an ounce, are the ratio of the other things, by which something is measured, often and properly it ought to measure; therefore the time of the motion of heaven is also the smallest.

[31] Gutman, *Liber celi et mundi,* 332-34.

> It also happens that the time of the motion of heaven is the measure of all motion, as Aristotle made clear in Bk. 4 of the *Physics,* when he described time, because the [time of the] motion of heaven is less than that of all other things, and is equal and continuous and perpetual. For in every genus of things, that by which they are measured must be less than all those things which are measured, such as a unit in number, a dragma in weight, and a cyathus in capacity. Therefore it followed from this that the time of the motion had to be less than all others, because through it is measured the time of all other things.

modi corpus quintum non sit ignis, hoc nobis dicendum relinquitur. Non enim convenit, ut id ea ratione probetur, quoniam nempe ignis natura sua calefacit ac splendet, et stellae similiter hos duos effectus agere posse videntur.[32]

cf. *Liber celi et mundi* chapter 13 ll.1-5:

Primum autem quod debemus de eis inquirere, hoc est de natura earum, scilicet an sint ignee nature sicut quidam putaverunt, an sint nature sine igne. Dicemus autem quod qui dixerunt eas ignee esse nature ratiocinati sunt, dicentes quod splendor et calefactio propria sunt igni. Sed hec duo inveniuntur in stellis.[33]

and

Lumen autem non ab igne tantum, verum et a quinto corpore proficiscitur; de hoc autem explicatus in libro de sensatu et sensili, nec non etiam in libris de anima disseruit.[34]

cf. *Liber celi et mundi* chapter 13 ll.58-60:

Iam autem patefecit Aristoteles in libro de sensu et sensato et in libro de anima, quod non est de natura earum calor sed calefaciunt nos suo motu.[35]

In the final pair of passages, the references to *De sensu et sensato*

[32] Landauer, *Themistii paraphrasis*, 109.

It ought to be agreed that it is clearly the shared opinion of everyone that the stars are composed from that body in which they are located; it remains for us to say that the fifth essence is not fire. For it is not fitting, as is shown by reason, since, without doubt, fire heats and gives light and similarly the stars seem to be able to achieve these two effects.

[33] Gutman, *Liber celi et mundi*, 436.

The first thing we ought to inquire concerning [the stars] is what is their nature, that is, whether they are of a fiery nature, as some have thought, or of a nature without fire. We shall say that those who have said that they are of a fiery nature form their argument saying that light and heat are the properties of fire. But both are found in the stars.

[34] Landauer, *Themistii paraphrasis*, 111.

But light springs not only from fire, but also from the fifth body; concerning this it is explained in the books on sense and sensation and he has also discussed it in the books on the soul.

[35] Gutman, *Liber celi et mundi*, 448.

But Aristotle made clear in the book on sense and sensation and in the book on the soul, that heat comes not from their nature, but that they heat us by their motion.

and to *De anima* are misleading, because there is no discussion, in either text, of the means by which stars emit heat. The duplication of such a mistake can hardly have been coincidental. Yet these passages prove only that the author of the *Liber celi et mundi* knew of Themistius's paraphrase. They do not justify the conclusion that the *Liber celi et mundi* is a redaction of the paraphrase.

Alonso then lists parallels to each of the sixteen chapters of *Liber celi et mundi*. This is hardly surprising, because both texts are paraphrases of *De caelo*. An instance when both paraphrases agree with each other against Aristotle would be more conclusive. Yet such agreement never occurs.

Alonso claimed in support of Themistius's authorship the testimony of Ibn al-Nadim, a learned Arab bookseller. He was born in Baghdad *c.*936, and was possibly a pupil of Yahya ibn 'Adi, who was himself taught by al-Farabi. In 987, al-Nadim compiled a catalogue of his wares, a bibliography of ancient and modern philosophy, entitled the *Fihrist*, or "Catalogue". It is an important contemporary study of the lives and writings of the earlier Arabic philosophers. Al-Nadim writes at length on the works of Aristotle, including the following passage on *De caelo*:

> This is composed of four books. Ibn al-Bitriq translated this work and Hunayn emended the translation. And Abu Bishr Matta translated a portion of the first book. There is a commentary by Alexander of Aphrodisias on part of the first book of this work, and from Themistius a commentary on the entire work. Yahya ibn 'Adi translated or emended it. Hunayn also produced something on this work, namely the sixteen questions.[36]

Ibn al-Bitriq translated *De caelo* in the ninth century, and Abu Bishr Matta (*d. c.*940) a century later. The latter, a Nestorian Christian, also translated *De generatione et corruptione* with the commentary by Alexander of Aphrodisias, as well as Alexander's *De caelo* commentary. Hunayn ibn Ishaq corrected Ibn al-Bitriq's translation.

The coincidence of Hunayn's sixteen questions and the sixteen chapters of the *Liber celi et mundi* (each of which sets out to answer a question concerning Aristotelian cosmology) suggests strongly that Hunayn's text forms the basis for the *Liber celi et mundi*. We know the Arabic title for the questions, *Jawami' tafsir al-qudama' al-Yunaniyin li-kitab fi sama*. What we cannot tell, however, is whether

[36] I have followed the translation of F. E. Peters, *Aristoteles Arabus. The Oriental Translations and Commentaries of the Aristotelian Corpus* (Leiden 1968), 35.

Ibn al-Nadim intends that these were based upon *De caelo*, or upon Themistius's paraphrase. Alonso, though admitting a degree of uncertainty, concluded that the *Liber celi et mundi* is a composition of extracts from Themistius's paraphrase. I am inclined to think that the passage from the *Fihrist* implies that Hunayn composed sixteen questions based upon *De caelo*. Hunayn had undoubtedly read Themistius's paraphrase, and quotes three passages from it. But the bulk of the *Liber celi et mundi* is an original paraphrasing of *De caelo*.

The sixteen questions composed by Hunayn were almost certainly the same as the chapter headings of the *Liber celi et mundi*. But it may be that other Arabic authors answered Hunayn's questions and wrote their own paraphrases of Aristotle. The *Liber celi et mundi* may be a translation of such a work, in which case it remains an anonymous writing, though in the tradition of Hunayn's exposition.

The genre of question-writing as a form of commentary was not uncommon in Arabic philosophy. Al-Biruni (*d.*1048) composed an entirely separate set of 18 questions, *al-As'ilah wa'l-ajwibah* ("The questions and answers").[37] These were critical of Aristotle's cosmology. Avicenna, using the same question-headings, wrote a reply to al-Biruni, defending Aristotle on each of the 18 charges. Al-Ghazzali's *Destruction of the Philosophers* and Averroes's *Destruction of the Destruction* take a similar form.

## *The translators of the* Liber celi et mundi

A more certain conclusion may be reached concerning the identities of the translators from Arabic into Latin. One of the two Vatican manuscripts (Vat. Latinus 2186 fols. 50v-57v) contains the inscription *interpretatibus Gundisalvo et Johanne*. Gundisalvo is clearly Dominicus Gundissalinus, (*d. c.*1190), the Toledan translator from Arabic into Latin.[38] The identity of Johannes is not im-

[37] Al-Biruni and Ibn Sina, *Al-As'ilah wa'l-Ajwibah ("questions and answers") including the further answers of Al-Biruni and Al-Masumi's defence of Ibn Sina*, ed. S.H. Nasr and M. Mohaghegh (Tehran 1995).

[38] On the translations of Gundissalinus, see M.-Th. d'Alverny, "Translations and translators," *Renaissance and Renewal in the twelfth century*, ed. R.L. Benson and G. Constable (Cambridge Mass. 1982), 444-6; J. Jolivet, "The Arabic inheritance," *A history of twelfth-century western philosophy*, ed. P. Dronke (Cambridge 1988), 113-48 (especially 116-8).

mediately apparent. Gundissalinus's more famous colleague was the Jewish scholar, Avendauth. Avendauth lived for a time in Cordoba. He and Gundissalinus collaborated on the translation of Avicenna's *Liber de anima.*[39] Avendauth translated the Arabic into the vernacular (*singula verba vulgariter proferente*), and Gundissalinus put this into Latin (*Dominico archidiacono singula in latinum convertente*).[40] The vernacular to which the translators refer in their prologue may be Spanish or Arabic.[41] The finished product was dedicated to Archbishop John of Toledo (1151-1166). In the prologue, Avendauth refers to himself as *Israelita philosophus.* He is very probably to be identified with the Jewish philosopher, Abraham ibn Dawud, who was an exile from Cordoba, and was living in Toledo by 1160.[42]

Moritz Steinschneider identified Avendauth/Ibn Dawud with Johannes Hispanus.[43] Johannes Hispanus, working in Toledo, concentrated on philosophical writings, and collaborated with Gundissalinus in translating al-Ghazzali's *Metaphysics*[44] and Ibn Gabirol's *Fons vitae.*[45] Steinschneider thought that Avendauth converted to Christianity, and took Johannes as his baptismal name. He even suggested that Johannes became Archbishop John of Toledo. Marie-Therèse d'Alverny showed the weakness of this identification.[46] It seems more likely that the two were separate figures, both colleagues of Gundissalinus at Toledo.

Johannes Hispanus must also be distinguished from Johannes Hispalensis ("of Seville"). Two manuscripts of the *Liber celi et mundi* (Salamanca 2671 and Vat. lat. 2186) name the latter as the

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[39] Avicenna, *Liber de anima seu sextus de naturalibus*, ed. S. Van Riet, 2 Vols (Louvain/Leiden 1968-1972).

[40] Van Riet, *Liber de anima*, vol. 1, prologus, 4.

[41] On this question, see Van Riet's introduction, vol. 1, 91-156 (especially 98).

[42] According to M.-Th. d'Alverny, "Avendauth ?" *Homenaje a Millas-Vallicrosa* I (Barcelona 1954), 19-43, repr. in the collection of essays, M.-Th. d'Alverny, *Avicenne en Occident* (Paris 1993), 19-43.

[43] M. Steinschneider, *Die europäischen Uebersetzungen aus dem Arabischen bis mitte des 17. Jahrhunderts* (Vienna 1905), 43.

[44] Al-Ghazzali, *Metaphysics*, ed. J.T. Muckle (Toronto 1933). *cf.* The incipit of Rome, MS Ottobianus lat. 2186 fols. 1r-110r: *incipit liber Algazelis de summa theorice phylosophye translatus a magistro Iohanne et D. archidiacono in Toleto de arabico in latinum.* M.A. Alonso examined the work of these two figures in "Notas sobre los traductores Toledanos Domingo Gundisalvo y Juan Hispano," *Al-Andalus* 8 (1943), 155-88.

[45] Ed. C. Baeumker, *Avencebrolis Fons Vitae ex Arabico in Latinum translatus ab Johanne Hispano et Dominico Gundissalino, Beiträge zur Geschichte der Philosophie des Mittelalters* 1.2-4 (1891-5).

[46] D'Alverny, "Avendauth ?" 22-28.

translator. Johannes Hispalensis was an astrologer and astronomer, working in Limia and Toledo. But nowhere in the translations ascribed to Johannes Hispalensis is Gundissalinus mentioned. Johannes Hispanus was a generation or more younger than Johannes Hispalensis. Johannes Hispalensis was already translating Abu Ma'shar's *Introductorium maius* in 1133, whereas Gundissalinus's activity as archdeacon extended into the 1180s.

Therefore, the reference in Vat lat. 2186 is correct insofar as it ascribes the Latin version to Gundissalinus.[47] But it is almost certainly incorrect in identifying Gundissalinus's colleague as Johannes Hispalensis. It could only have been Johannes Hispanus. The period of their collaboration was the third quarter of the twelfth century.

*Reception of the text*

Too many thirteenth-century writers cite the *Liber celi et mundi* to examine each individually here. I shall instead consider only the earliest references, in the writings of three different authors.

The earliest of these scholars was Daniel of Morley. If we are to believe the autobiographical prologue to his *Philosophia*,[48] he wrote the work at the request of Bishop John of Norwich (1175-1200), upon his return from Toledo. He intended it as a summary of the newly translated works of Greek and Arabic philosophy. Toledo, he claims, is home to "the wisest philosophers in the world". He himself has studied under Gerard of Cremona at Toledo. He cites Ptolemy's *Almagest*, translated by Gerard, and Abu Ma'shar's *Introductorium maius*, translated by Hermann of Carinthia, and he claims to be quoting certain of Aristotle's works.

There are similarities between the prologue to the *Philosophia* and the prologue of Adelard of Bath's earlier *Quaestiones naturales*. These call into question Daniel's claim to have visited Toledo, having despaired of learning Arabic philosophy at Paris.[49] Adelard had made similar claims, and this may have been a literary motif to publicize one's work. Daniel's claim to have studied

[47] In the introduction to my edition of the *Liber celi et mundi*, I have demonstrated this on the basis of common phraseology in the *Liber celi et mundi* and in known translations of Gundissalinus (Gutman, *Liber celi et mundi*, 12-15).

[48] Daniel of Morley, *Philosophia*, ed. G. Maurach, *Mittellateinisches Jahrbuch* 14 (1979), 204-252 (especially 212).

[49] As was noted by Brian Lawn, *The Salernitan Questions* (Oxford 1963), 58-63.

under Gerard of Cremona may be unreliable, but there is no reason to doubt the reference to John of Norwich. It is almost certain that Daniel wrote the *Philosophia* between 1175 and 1200.

Daniel quotes from a wide range of classical sources. Of Aristotle's writings, he cites the *Physics*, *De caelo*, *De sensu et sensato*, and *De generatione et corruptione*. It was assumed that Daniel had read these in Gerard's translations, until Alexander Birkenmaier noticed that the references to the first three are taken from the *Liber celi et mundi*.[50] When Daniel claims to be quoting at length from *De caelo*, he is in fact quoting the *Liber celi et mundi*. The latter contains references to the *Physics* and *De sensu et sensato* which Daniel inserted into his own work within these lengthy quotations. The only Aristotelian translation which Daniel appears to have known was *De generatione et corruptione*, not in the version of Gerard of Cremona, but in the Greek-Latin *translatio vetus* by Burgundio of Pisa.[51] Indeed it cannot be proven that Daniel knew of any work translated by Gerard.

The *Liber celi et mundi* is the major source for Bk. II of Daniel's *Philosophia*. Perhaps as much as a quarter of Bk. II is lifted verbatim, including large sections of the chapters on the immutability and definition of heaven.[52] Generally these are not attributed, but Daniel does on occasion refer to the *Liber celi et mundi* in the following form:

> Sicut declaratum est in *libro celi et mundi*, corporum quedam sunt simplicia et quedam sunt composita; eius vero quod est compositum, motus debet esse secundum in eo naturam; eius autem quod est simplex, motus debet esse simplex et purus.[53]

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[50] Alexander Birkenmaier, *Le rôle joué par les medecins et les naturalistes dans la réception d'Aristote au XIIe et XIIIe siècles* (1930 Warsaw), 3-4.

[51] In the introduction to Joanna Judycka's edition of the *translatio vetus*, she confirms that this was the version used by Daniel (Judycka, XLVIII) (*cf. supra* n.9).

[52] Maurach, *Philosophia*, 229-30.

[53] Maurach, *Philosophia*, 232.

> As it is said in the book of heaven and earth, some bodies are simple, and others composite; the movement of a composite body ought to be according to its nature; the movement of a simple body ought to be simple and pure.

cf. *Liber celi et mundi* chapter 2, ll.40-43 (Gutman, 116):

> Corporum autem quedam sunt simplicia et quedam composita. Eius autem quod est simplex motus debet esse simplex et purus; et eius quod est compositum debet esse secundum dominantem in eo qualitatem.

In either England or Spain, Daniel had read the *Liber celi et mundi*, and deceived his audience, or, more probably, was himself deceived, into thinking that he had read a work by Aristotle.

Daniel was not alone in making this mistake. Alexander Neckam was an Englishman who spent time at Paris.[54] He was teaching theology at Oxford during the 1190s.[55] Richard Hunt dated his *De naturis rerum* to the years 1197-1204, so perhaps twenty years later than the *Philosophia*. In the following passage from *De naturis rerum*, Neckam claims to be quoting from Aristotle's *De caelo*:

> Aristoteles autem in *libro coeli et mundi* probat stellas non esse igneas. Si enim, inquit, igneae essent, naturaliter moverentur sursum, cum locus non sit impedimento. Praevenit etiam Aristoteles objectiones aliorum, dicens "Splendorem habent stellae, sed similiter et putridines quercus. Calefaciunt stellae, sed et sagitta motu suo facit plumbum liquescere."[56]

This is not from *De caelo*, but is an amalgam of two passages in the *Liber celi et mundi*.[57] Neckam, like Daniel, explicitly quoted from the *Liber celi et mundi*, evidently thinking that it was by Aristotle.

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> Some bodies are simple and some composite. The motion of that which is simple ought to be simple and pure; and the motion of that which is composite ought to be according to the dominant quality in it.

[54] C.S.F. Burnett has examined the evidence provided by Alexander Neckam and Daniel of Morley for the availability of all of Aristotle's *Libri naturales* in England at the end of the twelfth century in "The introduction of Aristotle's natural philosophy..." (*cf. supra* n.13). Though out-dated in certain respects, the following is still useful: D. Callus, "The introduction of Aristotle's natural philosophy into Oxford," *Proceedings of the British Academy* 29 (1943), 229-281.

[55] I am following the chronology set out by Richard Hunt, *The Schools and the Cloister* (Oxford 1984), 11.

[56] Alexander Neckam, *De naturis rerum* I.6, ed. T. Wright (London 1863), 39.

> Aristotle, in the book of heaven and earth, shows that the stars are not made of fire. For if, he said, they were of fire, their natural movement would be upwards, if there is nothing in the way. Aristotle also anticipates the objections of others, saying "The stars have splendour, but so does a rotting oak. The stars produce heat, but so does an arrow, which, when it moves will melt lead."

[57] Chapter 13 ll.17-18, 60-61:

> Invenimus enim multa habentia splendorem in se quo illuminant, ut fragmenta quercus putride... Invenimus autem multa que calefaciunt suo motu, sicut ex motu sagitte liquescit plumbum quod est in ea.

> For we also find many things [as well as stars] that have light in them, by which they illuminate, such as fragments of a rotting oak... We find many things which heat by their motion, just as by the motion of an arrow the lead in it is melted.

The *Liber celi et mundi* was therefore known to at least two English scholars at the very end of the twelfth century. Unlike Vincent of Beauvais and Albertus Magnus, they linked the text not to Avicenna, but to Aristotle himself. A further example of this confusion, but one which serves to clarify the mistake somewhat, appears in Arnold of Saxony's *De floribus rerum naturalium*.[58] *De floribus* is a collection of philosophical sources. Arnold compiled it *c.*1225;[59] of the translations of Michael Scot, Arnold knows only the *De animalibus*, which appeared some time before 1220. He is ignorant of Scot's translation of *De caelo* together with Averroes's commentary (*c.*1230).

In Book I.12, Arnold considers the nature of heaven. He refers extensively to two sources, which he calls the new and the old translations of *De caelo*. He starts by paraphrasing a number of passages from the *Liber de celo et mundo secundum novam translationem Aristotelis*.[60] These passages all come from Gerard of Cremona's translation. Arnold then turns to the *Liber de celo et mundo secundum veterem translationem Aristotelis*, and quotes a lengthy selection of passages from the *Liber celi et mundi*. Arnold believed this to be the older translation of Aristotle's text. This was not wholly misleading; it represents, fairly accurately, the cosmological theories of *De caelo* itself. Arnold was able to compare it with Gerard's translation, and, despite the lack of formal likeness between the two works, concluded that they were versions of the same original text. Arnold's conclusion was not unreasonable. The *Liber celi et mundi* differs from *De caelo* on only one substantial point of doctrine: in the former, the eternity of the world is denied.[61]

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[58] *Die Encyclopädie des Arnoldus Saxo*, ed. E. Stange (Erfurt 1905).

[59] On Arnold, see Isabelle Draelants's article, "Une mise au point sur les oeuvres d'Arnoldus Saxo," part 1 *Bulletin de philosophie médiévale* 34 (1992), 163-80; part 2, *Bulletin de philosophie médiévale* 35 (1993), 130-49. On the dating of *De floribus*, see in particular 1: 166.

[60] Stange, *Encyclopädie*, 13.

[61] *Liber celi et mundi* chapter 5 ll.150-152 (Gutman, 200):

> Amplius autem postquam manifestum est quod non est possibile quantitatem infinitam habere esse vel fuisse vel futuram fore, tunc iam manifestum est quod quantitas celi in suo tempore et sua essentia finita est et initium habet.
>
> Moreover, since it is clear that it is not possible for an infinite quantity to have being or to have had it or to have it in the future, then it is now clear that the quantity of heaven, both in its time and in its essence, is finite and has a beginning.

Gerard of Cremona's translation of *De caelo* was not quoted by any English scholar during the twelfth century. Indeed, there is a notable absence of any reference to Gerard's translation during the first two decades of the thirteenth century. Without access to a translation of *De caelo*, it is unsurprising that the *Liber celi et mundi* should have been mistaken for a genuine Aristotelian writing. The confusion amongst English scholars cannot have lasted much beyond the return of the students and masters to Oxford after the end of the papal interdict in 1214. Grosseteste cites the genuine *De caelo* extensively in his writings of the 1220s.

Nevertheless, a degree of certainty that the *Liber celi et mundi* was not by Aristotle may only have been achieved with the appearance of Michael Scot's translation of *De caelo* in 1230. Only after this date do we find extensive direct quotation of *De caelo*. If this is so, then the attribution to Avicenna *c.*1240 becomes more intelligible. This may have been occasioned by the exclusion of the *Liber celi et mundi* from the Aristotelian *Corpus vetustius*. With Scot's translation of Averroes's commentary available, it made no sense to attribute an independent paraphrase to him. There was no such commentary by Avicenna available for another half century. Therefore, Avicenna must simply have been the most plausible author of the *Liber celi et mundi*.

The *Liber celi et mundi* was not immediately dropped from the *Corpus vetustius*. An Erfurt manuscript (Wissenschaftlische Bibliothek der Stadt, MS Amplon F. 31[62]), from the latter half of the

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This contrasts with Aristotle, who, in *De caelo* 1.3, argued that the *quinta essentia* must be ungenerated and eternal.

The argument in the *Liber celi et mundi*, from the impossibility of an actually existing infinite to the impossibility of heaven being infinite in size or eternally existing, owes something to Philoponus's *De aeternitate mundi contra Aristotelem*. In Fragment 132 of *Contra Aristotelem*, the source for which is Simplicius's commentary on the *Physics* 1177, 38-1179,26 (Philoponus, *Against Aristotle, on the eternity of the world*, ed. C. Wildberg (London 1987), 143-6), Philoponus turned Aristotle's assertions of the impossibility of an actually existing infinite and that an infinite might be traversed against Aristotle's claim that the world has existed eternally:

> That it is impossible for an infinite number to exist in actuality, or for anyone to traverse the infinite in counting, and that it is also impossible that anything should be greater than the infinite, or that the infinite should be increased.

If the world has existed eternally, then an infinite succession of moments does exist in actuality, and this infinite must be increased as the world ages.

[62] *cf.* G. Lacombe, *Aristoteles Latinus* 1: 867; M.-Th. d'Alverny, "Avicenna Latinus VII," *Archives d'Histoire Doctrinale et Littéraire* 34 (1967), 319-21.

thirteenth century, includes the *Liber celi et mundi* alongside Gerard's translation of *De caelo* and other early Aristotelian translations by Gerard, James of Venice and Burgundio of Pisa. But the majority of the manuscripts of the *Liber celi et mundi* copied after 1250 are collections of the writings of Avicenna and Averroes.

The *Liber celi et mundi* does not therefore fit into the category of writings that were known not to be by Aristotle and yet were included in the *Corpus vetustius*. In this category belong the *Liber de causis* and Qusta ibn Luqa's *De differentia spiritus et anime*.[63] These circulated with genuine Aristotelian texts because they were thought to be useful summaries of Aristotle's teaching. This was an inaccurate appraisal of both texts. In the *Liber de causis*, Aristotle's *Metaphysics* is heavily tainted by neo-platonism,[64], and *De differentia*, though glossing Aristotle's definitions of the soul (as well as Plato's), omits most of Aristotle's psychology from *De anima*.

This category of texts has been recently examined in an article by Stephen Williams.[65] Williams highlights the prevalence of non-Aristotelian texts that circulated with the *Corpus vetustius*. He shows that thirteenth-century scholars were not so credulous as we have tended to imagine. He gives the lie to the theory that the *Liber de causis* was uniformly accepted as a genuine Aristotelian text until Thomas Aquinas, in his *Expositio super librum de causis* (1272), showed that it was a series of excerpts from Proclus's *Elementatio theologia*.[66]

Williams demonstrates conclusively that not every text that circulated with the *Corpus vetustius* was thought to be by Aristotle. A text might be copied because it provided a guide to Aristotle's teaching in the absence of a genuine text. Equally, it might be included in the same manuscript as a genuine text because it summarized the more complex elements of Aristotle's theories. Such is presumably the case for the Erfurt manuscript, to which I re-

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[63] On the *Liber de causis*, see the edition of A. Pattin, *Le Liber de causis* (Louvain 1975). On *De differentia*, see C.S.F. Burnett '"Magister Iohannes Hispalensis et Limiensis" and Qusta ibn Luqa's *De differentia spiritus et animae*: a Portuguese contribution to the Arts curriculum ?' *Mediaevalia, Textos e Estudos* 7-8 (1996), 221-267.

[64] *cf.* Pattin, *Liber de causis*, 3: "Le Liber [de causis] renfermerait des propositions d'Aristote et de Platon."

[65] S. Williams, "*Defining the Corpus Aristotelicum*: Scholastic awareness of Aristotelian spuria in the High Middle Ages," *Journal of the Warburg and Courtauld Institutes* 58 (1995), 29-51.

[66] Williams, *Corpus Aristotelicum*, 34-38.

ferred above, in which both *De caelo* and the *Liber celi et mundi* appear.

But Williams has taken the bulk of his evidence from thirteenth-century scholars, often from the mid- or later part of the century. The evidence of the very earliest collections of Aristotle's natural philosophy, in particular MSS Selden Supra 24, Avranches 221 and Avranches 232, compiled at the end of the twelfth century, indicates a failure to distinguish genuine Aristotelian writings from those by other authors which summarize Aristotle's teaching, and might be said to offer the *intentio Aristotelis*. Alongside the *Liber celi et mundi* in this category belong *De mineralibus* and *De plantis*. Both were translated by Alfred of Shareshill at the end of the twelfth century. *De mineralibus* is a translation of part of Avicenna's *Kitab al-Shifa*, appended, probably by Alfred himself, to the end of Bk 4 of Aristotle's *Meteorologica* in the copy found in MS Selden Supra 24. By virtue of its attachment to the *Meteorologica*, *De mineralibus* appears in many collections of the *Corpus vetustius*. *De plantis* was written by Nicholas of Damascus. Alfred's translation appears in 159 manuscripts, most of which are collections of Aristotelian writings.[67]

The "critical perspicacity" which Williams describes was to some extent a thirteenth-century development replacing the more fluid concept of authorship of the previous century, in which a text presenting the *intentio Aristotelis* was considered the equal of a genuine text. In the case of the *Liber celi et mundi*, even a writer such as Arnold of Saxony, who had read Gerard's translation of the genuine text, described the *Liber celi et mundi* as the old translation of *De caelo*. It is hardly surprising, then, that Alexander Neckam and Daniel of Morley, who seem not to have had access to the genuine work, should have thought of the *Liber celi et mundi* as Aristotle's *De caelo*.

There is a risk of being anachronistic in dividing the early corpus into Aristotelian and non-Aristotelian writings. The question of authorship was not rigidly applied, and little distinction was drawn between a text written by an ancient writer and one that represented his ideas. The very language encouraged such hazi-

[67] According to B.G. Dod ("Aristoteles Latinus", *Cambridge history of later medieval philosophy* (Cambridge 1982) 45-79, especially 79). On Alfred of Shareshill, see J.K. Otte, "The life and writings of Alfredus Anglicus," *Viator* 3 (1972), 275-91; J.K. Otte, "The role of Alfred of Sareshel (Alfredus Anglicus) and his Commentary on the *Metheora* in the reacquisition of Aristotle," *Viator* 7 (1976), 197-209.

ness. The phrase *secundum Aristotelem* could have either meaning. The *Liber celi et mundi* fulfilled this role for *De caelo*. As such, the *Liber celi et mundi* was a part of the *Corpus Aristotelicum*. It was ousted by the translations of Gerard and Michael Scot. But for half a century, the period during which the *Corpus vetustius* took shape, the *Liber celi et mundi* was the guide to Aristotle on the heavens.

ABSTRACT

In this article, I examine a Latin paraphrase of Aristotle's *De caelo* known as the *Liber celi et mundi*. The text was translated from Arabic in the third quarter of the twelfth century, and thus pre-dates all four Latin translations of *De caelo* in the twelfth and thirteenth centuries. It was probably written by the ninth century Arab, Hunayn ibn Ishaq. I show the weakness of a previous theory that the *Liber celi et mundi* derives indirectly from Themistius's paraphrase of *De caelo*. The text was translated into Latin by Dominicus Gundissalinus and his Jewish colleague, Johannes Hispanus. From *c.*1250, it was mis-attributed to Avicenna, and there is evidence that it had earlier been attributed to Aristotle by certain English writers. I consider the function of the *Liber celi et mundi* within the corpus of early Aristotelian translations, and the date of its expulsion from the corpus.